INNOVATION IN EDUCATION

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ABSTRACT

Educational scenario has witnessed gradual change in the methods and techniques of teaching-learning process in due course of time. Diverse innovations in education have arisen in recent times. Innovation in education has been led by various researchers, teachers and administrators. The most important place to start changing your school or college is through innovation in classroom situations. It includes new ways to improve teaching methods and identify the needs of students. A reflection on teaching give scope for devising new ways and means of Innovation. The pedagogical realm has seen new techniques of teaching and learning. With students accommodating more space for connection to social media through smartphones and gadgets at home, some have experience decreased concentration levels in learning is decreasing. Utilization of digital platform in the productive learning has been the mode of learning since last few years. Microlearning, gamification, virtual reality, A1-induced learning, and augmented reality are some of the innovations to challenge the present scenario of teaching and learning. The innovation sphere in learning is making its marks very rapidly. New techniques of learning are coming up and these are being used in institutions to help shape the process of learning at ease. The curriculum and the learning is encapsuled according to the innovated mode to attenuate the enhancements in learning. The thematic understanding of various innovations in Education has been done in the present paper.

KEYWORDS: Innovation, Metacognition, Micro-Learning, National Educational Technology Forum (NETF), Gamification

INTRODUCTION

Innovation in Education is to induce change to enhance learning opportunities. The learning in the educational system has witnessed gaps found in the academic performance of students. These gaps can be sealed with new innovation dimensions researched by educators, administrators, and pioneers. It is the cumulative efforts of different resource persons to bring out the process of change in the learning environment. It is to help students with varied concepts from different subjects in the process of learning. Innovative teaching is to help students to nurture skills and develop capabilities. One of the innovations in education is the wide use of digital tools to aid the process of learning. These also help to instill the tender minds to get creative pursuits using the technological domain amidst uncertain conditions.

REVIEW OF LITERATURE

The literature review shows researchers working on innovation related to the educational dimension. The innovation aims to improve the present teaching-learning situation from the earlier one. Innovation is always based on experimentation and knowledge improvement. It is a changing process and practice. According to Hare (1978), innovation in education ought to have a desirable and valuable change. The educational system needs to be designed to nurture thinkers that contribute to society. Kolawole (1981) describes the strategies of Innovative teaching as the use of facilitative approaches to teaching. The National Policy on Education (NPE 1986, 92) has suggested the freedom to innovate for teachers. It devised varied innovative teaching methodologies catering to learners. Chattopadhyaya Commission noted that School teachers are expected for innovative strategies of teaching. He also stated that colleges of Education should also cater to innovation in the teaching-learning process. The National Curriculum Framework (2005) has given importance to innovative practices in teacher education. Williams (2010) states an innovative approach is a design that involves ideas, methods, and equipment, instructional strategies to evolve a novel one. Obi (2016) suggested the need for innovative instructional strategies in the teaching and learning of science in Nigeria. Some of the innovative strategies recommended for the teaching and learning of science were discovery, inquiry, project, demonstration, fieldwork, game, and multimedia methods. According to Wai (2017), the innovation 'platform' and 'process' is to be aligned with the existing innovative teaching and learning in the classroom and must have impressive networking to produce a massive impact in education. Ashley (2019) stated that innovation is examining the current situation, making small-scale changes, and broadening the approach. The National Education Policy (2020) recommended innovation in colleges and Universities. The policy envisioned start-up incubation centers to execute ideas and innovations. The major feature of NEP is to educate people using technology-driven solutions. It mentioned technologies such as artificial intelligence, machine learning, blockchains, smart boards, handheld computing devices, and adaptive computer testing which would support education. It also suggested educational software and hardware which would change what students learn in the classroom and the way they learn. NEP stated autonomous body National Educational Technology Forum (NETF) would be created to facilitate innovative ideas in the Ed-Tech field. The NETF would act as a knowledge base for researchers and entrepreneurs in the field. It would create a landscape of technology such as AI, 3D printing, and Virtual Reality in education. The professional culture that supports innovations in schools had been found to produce higher levels of innovative teaching practices (UNESCO, 2013). The present paper is to highlight the insights into innovation in education.

INNOVATION IN EDUCATION IN THE PRESENT SCENARIO

Innovation in teaching and learning refers to a new technique of pedagogy to elevate the learning process. It is any novel teaching strategy that helps in improves students in their learning efficiency. Classroom which is innovative, uses technology to build its effectiveness in learning. It includes smart classes, interactive whiteboards, computers, television, radio, transistors, and many more. It helps to reinforce learning and helps the students to engage in learning. Two decades of technological involvement in education was the silent trend with slow involvement in everyday life in the early 21st century. COVID-19 made technology mandatory in the teaching-learning process in the year 2020. The Internet became a basic need next to food, clothing, and shelter. The technology thriving through the internet has imparted skills and pedagogical varieties according to the diverse needs of the learners. Hybrid learning constitutes physical learning in the classroom and online learning at home. It is an innovation that has evolved due to the COVID-19 pandemic when schools were closed due to lockdown. As the schools reopened, teachers got used to teaching students physically and in online mode simultaneously. The online mode was through the convenience of a zoom, google meet, Microsoft teams, etc. It helped students to be at the pace of learning amidst uncertain conditions. It paved the way to be creative in physical teaching and as well structuring the teaching to meet the demands of the students attending online. Hybrid learning is tailor-made to suit the conditions prevailing in students who attend physical mode and online mode.

SOME OF THE INNOVATIONS IN THE TEACHING-LEARNING PROCESS

1. **Virtual reality:** Virtual reality (VR) glasses are widely used in the classroom and gives an experience near to real. It can help to learn different subjects like historical events of the past, geographical phenomena, and natural phenomena. It can help the students to get the best of the reality of concepts. It gives experiences to students which could be otherwise difficult in real life. It can help to explore important phenomena of academic concepts in the school environment. It saves resources such as time, money, and energy. It gives students confidence prior to stepping into the real world.

2. **Augmented Reality:** Augmented reality (AR) is an experience that constitutes reality and technology. AR has 3 important aspects: a collaboration of physical and virtual reality, the interaction of real pictures or objects, and 3D registration of objects related to real and virtual figures. It helps in the perception of real objects by observing with system generation magnification. AR is parallel to reality which is manifold. The object which is real gets an overall 3D manifested reality through the technology used. The components of the technology transform the real objects forming a 3D image that is perceived for educational purposes. The mixed reality experiences for users were earlier used in entertainment and gaming businesses. Its application in the educational sector is tremendous.

3. **A1 induced learning:** Some of the Technological software applications in learning use A1 in learning. These help the students to elevate the level of their proficiency in the concerned subject. A1 enabled software in education is equipping with programming to get the students acquainted and master the concepts of learning. can help in providing additional support to enhance learning. The focus of A1-induced learning is to enable avail the content which enables efficient learning. This gradually helps to practice and drill in the subject. Software of A1 induced learning promotes students with extensive practice and attain perfection in the subject.

4. **Gamification:** Gamification is the application of gaming used to increase involvement in teaching and learning. Gaming is a technique that brings out the best through the heightened excitement of the game played by children and adults. Its context in learning is used in gamification. The play way method has always been the concept of learning in pre-schooling. Mobile gaming has been the crux of gaming for children. The application of this gaming in the educational field has created excitement in learning. It also helps in achieving a good academic performance of the concept learned by gamification. It gives motivation to those students who just want to play and learn. It creates an active engagement in learning with students just playing and learning the subject.

5. **Microlearning:** Microlearning is an approach to learning new concepts in small chunks at a time. These lessons can range from 1 minute to 10 minutes according to the topic. It is used to teach small topics in less time. It is helpful for retention of the learning. As is seen, youtube shorts are very popular and people tend to see the easier version of shorts than long videos for entertainment. Similarly, the application of microlearning in the teaching-learning process is to learn effectively in less time. The logo is 'Small yet meaningful content in less time'. It helps to save time in learning and retention of learning. Students find the learning very crisp and to the point. It is a brief and concise version of the content. It helps in the accuracy of learning without wastage time. It helps students to learn self-paced. The teaching-learning process having micro-learning sessions can be found to be very productive.

6. **ChatGPT:** Students use the technology of google ChatGPT in solving problems related to education. They can use the concepts which are difficult and get simplified and easy answers from the technology. In fact, students have found to be interestingly using the technology of ChatGPT since it was started. Innovation breeds its application in day-to-day life. ChatGPT is one such which is revolutionizing every area.

USE OF INNOVATION IN THE TEACHING-LEARNING PROCESS

1. **Novel aspect:** Innovation is the implementation of new things or methods (Brewer & Tierney, 2012). Serdyukov (2017) stated that innovation in education involves a new methodological approach, new pedagogical philosophy, instructional tools, teaching techniques, learning processes, or instructional structures which would bring major improvements in the process of teaching and learning. Thus, it would help in improving students learning.

2. **Increase in Productivity:** The main concern in innovation in education is to increase the efficiency and productivity of the learning process to improve educational quality. At the same time, the main focus of innovation is to raise efficiency and maximize the quality of education received by every student.

3. **Time-saving:** Innovative technologies can help to

achieve the result with less amount of time, less money involved, and less effort. It facilitates the learning processes for students much easier. It saves more time and resources compared to the traditional way.

4. **Facilitate the learning processes:** Innovation facilitates the learning processes easier for students. According to Serdyukov (2017), innovation is a process to engage learning among students through the use of technology. It gives teachers more time to plan other activities in the classroom.

5. **Improvement of teaching and learning:** Any incorporation of technologies in the phase of teaching and learning is intended to improve the efficiency of teaching and learning. It can be achieved if effective pedagogical theories are used for the implementation of technological innovation. It would make changes and drive pedagogical innovations.

6. **Increased teacher competency in the usage of Educational technology:** Awareness among educators of the fact that computers are not a substitute for humans and it is to be handled to make learning simpler. The implementation of technological innovation must simultaneously be dealt with the leadership, pedagogical theories, and research in education. OECD (2016) stated that digital technologies have an impact on the learning and teaching process in schools. Findikoglu and Ilhan (2016) stated that innovation is not only the use of latest technology but innovation and technology adoption are otherwise used in place of other.

CHALLENGES OF INNOVATION IN THE TEACHING-LEARNING PROCESS

1. **Hindrance in creativity:** Maurer et al. (2013) also mentioned that the introduction of modern media in education, particularly computers would be perilous for inherent thinking capacity, to remember clearly and to concentrate as all these activities required creativity. Grant et al. (2012), in their book "Who Killed Creativity?" stated that the new technology ensured quicker communications technology and faster response time expected, but there is a possibility of distraction from creative thinking.

2. **Aftereffects:** The are many aftereffects discussed on the technology enhancement in education involving the social, cultural, and psychological.

3. **Elevated Expectations:** The promise of unrealistic hopes in technologies is to solve every teaching and learning problem in education could lead to decreased in the efforts of students and teachers in education.

4. **Lack of Upskilling in teaching faculty:** This weak performance of students is due to the lack of upskilling among the teaching fraternity in the schools. Incapability of students and teachers in using the Education software. Incorporation of technologies by teachers into the teaching and learning process and learning process required preparation and an intensive understanding of the technology in education.

5. **Focus on Technology:** The key focus of learners in the educational process is shifted to technology. Serdyukov (2017) states that when the planning is focused more on technology, important players which are the teachers and learners might be missed in the process.

6. **Less Rapport of Teacher and student:** Focus of innovative technologies could restrict students' interactions with teachers and can cause weak teacher-student bonds. The interactions between teacher-students are essential for the development of the student.

7. **Enhancements in some areas:** Innovative technologies bring enhancements to improve in some areas, it is however not wholesome to improve the existing educational systems

CONCLUSION

Education gives innovative scope for learning. Parents, educators, and administrators tap this innovative space of learning and design the teaching-learning for students. Education in recent times has survived the evolution of innovation through the inclusion of new methodologies, strategies, and techniques of teaching. Recommendations for innovation in education have paved the way to outshine the novel technological outputs which would help drastically in the learning process. The highly dense population of India today aspires to equip students to learn in innovative and smart ways. It is the need of the hour that technology is gearing up to prepare kids who can make the best use of technology in the teaching-learning process. The challenge of a school is to cultivate a learning environment making the maximum use of innovative teaching and learning processes for brighter students.

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